December 31, 1997

The Honorable Madeleine Albright
Secretary of State
Department of State
2201 C Street, NW
Washington, D.C. 20520

The Honourable Lloyd Axworthy, P.C., M.P.
Minister of Foreign Affairs
Lester B. Pearson Building
125 Sussex Drive
Ottawa, ON K1A 0G2

Dear Secretary Albright and Minister Axworthy:

The International Joint Commission is pleased to provide its interim report to the Governments of Canada and the United States under the reference of June 12, 1997 on flooding in the Red River basin. The report describes progress made by the Commission in addressing the causes and effects of damaging floods in the basin and proposes short-term actions which, if implemented, will contribute to reducing and preventing harm from future flooding. The governments asked for the Commission to provide an interim report by December 31, 1997, and a final report as soon as practicable before the end of 1998.

Progress to Date

In anticipation of receiving the June 12, 1997 request from the governments, the Commission considered generally what it might do should it receive the reference. It decided that it was essential to:

a. hold public meetings in the basin and let it be known that it would do so,
b. study the social as well as other effects of the flood, and
c. immediately visit the flooded region.

The Commission visited the flooded region in May 1997, while the downstream portion of the basin was still inundated by flood waters. Commissioners viewed flooded areas, received briefings, met with community leaders, and saw the effects of the flood first-hand. The Commission also consulted with members of its established boards in the region, obtained briefings and information on preparations and responses to the flood, and explored possible means of alleviating future damages from floods.

After receiving the June 12, 1997 reference, the Commission appointed an International Red River Basin Task Force (membership attached) to assist it in addressing the specific questions and issues posed by the governments. The Task Force is binational and multi-disciplinary. The members serve the Commission in their personal and professional capacity, in the interests of the Red River basin as a whole, and not as representatives of their agencies, organizations or other affiliations. The Commission directed the Task Force to take note of the work of other agencies and organizations in both countries, to access the full breadth of available programs and information, and to reach its decisions by consensus. The Commission also stressed to the Task Force the importance of public outreach and consultation in conducting its work.

The Commission and the Task Force held three meetings in the Red River basin with community leaders during the week of September 29, 1997. The purpose of these meetings was to obtain some initial perspectives on local impacts of the flooding and to help frame the broader issues in a way that ensures

further consultations are productive. Meetings were held in Moorhead, Minnesota; Grand Forks, North Dakota; and Morris, Manitoba. The Commission also met with Manitoba Premier Filmon, Provincial Ministers Pitura and McCrae, North Dakota Governor Schafer, North Dakota Senator Conrad, and the Red River Basin Board.

The Commission participated in a number of workshops and conferences on the flood of 1997. Several of these provided valuable insights into the flood and its impacts, allowed discussion with those affected by the flood and those involved in fighting its fury, and established valuable contacts for pursuing various aspects of the reference. The Commission made presentations at two conferences: the Flood of the Century International Research Workshop in Winnipeg, Manitoba; and the North Dakota Science Council Annual Meeting and Symposium on the Red River Valley Flood of 1997 in Grand Forks, North Dakota.

The Task Force commissioned interviews with families affected by the flood and with civic officials and local emergency management coordinators. It also convened a workshop on the social dimensions of the flood. Reports documenting this work are available upon request.

In addition to issuing a directive outlining the Task Force's responsibilities, the Commission provided guidance to Task Force deliberations, participated in certain Task Force meetings and workshops, held numerous conference calls with the Task Force Co-Directors, discussed issues with Task Force members, and provided suggestions and views on Task Force work.

Task Force Interim Report

The Commission encloses for the governments' consideration the interim report of the International Red River Basin Task Force, Red River Flooding: Short Term Measures and Plan of Study, dated December 1997. The report provides a brief description of the Red River basin and its flood history, examines the 1997 flood, and offers 40 recommendations for near-term implementation to assist in preventing or minimizing damages from future floods. It addresses emergency preparedness, response, recovery, and mitigation (reducing potential future flood damages.) The report also contains a draft Plan of Study outlining the means of examining in more detail a number of issues and opportunities that could lead to long-term improvements in floodplain management in the Red River basin.

The Commission was pleased to discover the many prudent steps taken to prepare for the 1997 flood, the prevailing spirit of binational and other cooperation throughout the basin, and the measures currently being taken to better prepare for future floods. The Commission believes that the interim report will help officials in both countries identify further opportunities for improvement in flood preparedness, response, recovery, and mitigation.

The Commission has carefully considered and fully endorses the recommendations of the Task Force. Accordingly, the Commission recommends as follows:

1. Alert the public in the Red River basin to the reality that while the 1997 flood had a return interval ranging from 100 to 500 years, depending on the location, there is a statistical probability of a similar flood each year. Flood preparedness must be part of the culture of the Red River valley. Put simply, the flood of 1997 or an even larger one could happen any year.
2. A meeting of senior federal-provincial and federal-state officials in each country should be convened to undertake policy level discussions and an examination of the 1997 flood. Special attention would be placed on extending the positive aspects of flood preparation and management during 1997 to future events throughout the Red River valley.

3. Increased liaison on a regular basis among the emergency management organizations throughout the basin should be a priority in order to establish better appreciation for the manner in which each operates during an emergency.
4. During a flood, Canadian liaison officers should be present in U.S. flood emergency centers to immediately relay information to Manitoba.
5. Update and enhance existing forecast models based on 1997 data and experience, focusing specifically on improvements that can be incorporated in basin-wide forecasts prior to the 1998 season. In particular, rating curve extensions should be undertaken as soon as possible.
6. Monitor the potential effects of El Niño on 1998 weather.
7. All flood forecasting agencies should ensure that they have sufficient, experienced flood forecasting staff at all times.
8. Simplify and clarify communication between flood forecasters and those with local flood emergency responsibility throughout the basin. The dissemination of forecast information to the public through the media should be simple and the variables inherent in those forecasts easily understood.
9. The Province of Manitoba, and affected municipalities, should review all Designated Flood Area legislation and zoning provisions with the intent of widening the options for enforcement. A comprehensive program of early inspection and enforcement should be developed and implemented immediately. Once this program is implemented, non-compliant new structures should not be eligible for disaster assistance.
10. In the United States, more stringent adherence to existing policies is a necessary, immediate and effective first step for better floodplain management. Emphasis should be placed on increasing participation in the flood insurance program.
11. Update profiles, maps and flood frequency curves for the Red River basin.
12. Plans to implement new flood mitigation and flood proofing measures for individuals and communities -- if sound in economic, environmental, engineering and social terms -- should continue as rapidly as possible. All such measures, whether by government or individuals, should be coordinated and examined to determine possible damage to others within the basin.
13. Pursue an agreement between the United States and Canada to enable comprehensive civil emergency planning and management that takes into account current trade agreements between the two countries, and in particular, allows for the cross-border transfer of supplies, equipment, contracting services and labor in the event of an emergency. The agreement should look into the possibility of developing regionally specific arrangements, including state-provincial protocols.
14. North Dakota and Minnesota should review emergency measure agreements in the light of the experience of the 1997 flood.
15. A basin-wide flood forecasting committee patterned on the Souris River Flood Forecasting Liaison Committee should be established for the Red River basin.
16. In the United States where regional operations of federal agencies are divided by the Red River, a lead region should be appointed for emergency operations when a flood is forecast.
17. All flood emergency plans within the basin should be reviewed in the light of the lessons learned during the 1997 flood to prepare more effectively for the next event.
18. Each jurisdiction with responsibilities for evacuation within the basin should establish an evacuation protocol within its emergency operation plan. Particular attention should be given to the clarity and public dissemination of the protocols to help prevent confusion at the time of evacuation. Evacuation plans affect different parts of the population in different ways, and plans should take into consideration the specific requirements of vulnerable groups, such as nursing home residents.
19. Establish sufficient information centers prior to and during a flood event, through 1-800 hot lines or other well publicized toll-free telephone numbers, to provide critical information to residents of the flooded area before, during and after the event. Enhance the opportunities for Internet access, particularly for small communities and rural areas.

20. Trauma teams, emergency-response teams and personal decision-management teams should be maintained until the current demand for services subsides.
21. In future times of crisis, such support teams should be established early and begin work as soon as possible.
22. Information about flooding and the measures in place in case of flooding in the Red River valley should be introduced into the school curriculum throughout the basin, and in particular, in the communities most at risk.
23. Earlier notice should be given to Canadian Forces of their potential involvement in flood fighting in order to allow them additional preparation time.
24. Canadian military and civil authorities should reach a common understanding of the types of assistance available, particularly in terms of aid to local law-enforcement authorities.
25. Develop hydraulic models for the Red River and its major tributaries, capable of being expanded for use in forecasting and analyzing overland flooding, as well as for floodplain management.
26. Document the 1997 overland flow areas within the basin, high-water marks and head losses, wind effects, timing and extent of road or dike breaches and blow-outs, and data networks used during the flood. In addition, document the shape, elevation and alignment of roads, dikes, levees, and drains including the size of bridge and roadway openings.
27. Develop a consolidated database containing hydrometric, climatic, topographical and other technical data within the basin needed to improve forecasting and modeling capability.
28. A high priority should be given to raising existing gages above the 1997 high-water level or replacing them.
29. Add to the current gaging system in the basin and, where needed, automate reporting to increase information for flood forecasters.
30. Depending on the flood outlook, the frequency of airborne gamma snow survey flights over the Manitoba portion of the Red River valley should be increased. Increasing the density of the network by adding more flight paths should also be considered.
31. In view of the critical need for accurate flood forecasting in the Red River valley, Environment Canada should identify Winnipeg as the highest priority location for the new radar installation.
32. Innovative methods of reducing ice jams should be reviewed and expert advice sought on how ice jams may be diminished. This subject should be explored at a workshop on ice control held in the winter of 1998 and attended by international experts and basin officials. The adverse and beneficial effects of ice management on flooding and the environment need to be carefully considered.
33. Information available to individuals, government and non-government organizations and others who contributed to the flood fighting effort in 1997 should be gathered and made available at a central basin-wide archive or archives in each country.
34. Liaison among governments and industry associations throughout the basin should be encouraged and strengthened. Communications should be extended to other businesses, individual home-owners and farmers.
35. The development of a broad public awareness program within the Red River floodplain area should be started to encourage home-owners and farm operators to collect and properly dispose of all waste products that present a contamination hazard. There should also be an immediate and concerted effort to remove or secure hazardous materials stored in the floodplain.
36. An inventory of all major potential sources of contamination should be developed and maintained, to include location, elevation and type of material, and amount. This inventory should extend to the agriculture industry and include intensive livestock operations.
37. A review of legislation on the management of hazardous materials should be conducted throughout the basin.
38. Conduct an inventory of all abandoned and active groundwater wells throughout the basin and institute an aggressive program of properly sealing abandoned wells and flood-proofing active wells against floodwater contamination from the surface.

39. The natural and beneficial functions of the floodplain must be considered in the design of new levees.
40. Reasonable measures should be implemented, consistent with current operating plans, to prevent (if possible) the movement of water between the Red River and Mississippi River basins at Lake Traverse-Big Stone Lake.

The Commission commends the Task Force for providing extremely valuable guidance in such a short period of time, particularly given funding difficulties. The Commission stresses the interim nature of the report and the need to further pursue many matters raised in the reference from the governments. Under ideal circumstances, the Commission would have preferred to obtain public comment on its interim recommendations prior to presenting them to governments; however, the short time frame for preparing the interim report did not permit this approach. The Commission encourages governments at the federal, state, provincial, and municipal levels to work together to implement the recommendations, in the near-term, to provide a measure of protection and preparedness, and to minimize damages from potential flooding in 1998. Recognizing that aspects of some recommendations are already being addressed at various levels of government in both countries, the Commission emphasizes the need for governments at all levels to begin immediately to address all of the recommendations.

Further Steps

Plan of Study

In its interim report, the Task Force presents a proposed Plan of Study, which describes how it intends to complete its work under the reference. It describes the plan as a work in progress which requires further consultation and input prior to being finalized. The Commission plans to hold public consultations in the Red River basin in February 1998 to obtain public comment on the interim report and the proposed Plan of Study, and to hear from the people of the basin. Following these consultations, the Plan of Study will be finalized and work will proceed to further address the matters identified in the reference. Some work will be undertaken prior to finalizing the Plan of Study to avoid undue delays. However, this work can be adjusted, if necessary, in the light of views expressed at the public consultations.

Reporting Deadline

The Task Force recommended to the Commission that the final reporting deadline identified in the original reference be extended by six months in order to allow for the research and investigations required to address appropriately the governments' request. The Commission supports this recommendation as the Task Force has been unable to commence substantive work with respect to hydrologic and hydraulic modelling, data analysis, and social impact reviews. The Commission requests the governments' concurrence for an extension of the final reporting deadline under the reference to June 30, 1999. The Commission recognizes that this time extension results in the reference work extending over an additional spring flood season. However, implementation of the near-term measures recommended will serve to ensure better preparedness for both the 1998 and 1999 flood seasons. Furthermore, should additional near-term measures that might further alleviate potential flood damages be identified during the Task Force and Commission deliberations, these will be brought to the governments' attention for immediate consideration.

Final Report

The Commission expects that its final report will provide guidance, tools, and a framework for action that will enable jurisdictions in the basin to be better prepared for future flooding in the Red River basin.

Such floods will inevitably occur again. The only questions are when, and how best to be prepared. Prior to presenting its final report to the governments, the Commission will hold public hearings in the basin to ensure that interested groups and individuals have an opportunity to present their perspectives on the matter under investigation.

The Commission would be pleased to discuss the interim report with the governments at their convenience, should they so desire.

Signed this 31st Day of December 1997 as the International Joint Commission's Interim Report to the Governments of the United States and Canada under the June 12, 1997 Reference on Red River Flooding.

Leonard H. Legault Canadian Chairman	Thomas L. Baldini United States Chairman
Pierre Béland Commissioner	Susan B. Bayh Commissioner
Francis Murphy Commissioner	Alice Chamberlin Commissioner